REMARKS

Claims 1-72 are pending. Claims 1-18 and 26-31 have been amended. Claims 32-72 are new. A clean copy of pending claims is attached for the Examiner's convenience.

SPECIFICATION AND DRAWINGS:

Applicant has replaced the specification and abstract as originally filed with the attached substitute specification and abstract to fix minor errors and awkward language. Both a clean copy of the substitute specification and abstract and a marked-up copy showing changes made are attached.

Applicant has also replaced the drawings filed earlier (on February 26, 2001) with the attached drawings (five sheets). The drawings correct typographic and other minor errors brought to Applicant's attention by the Examiner. Applicant has also unilaterally made other minor amendments. Applicant has amended claim 26 so that it no longer claims a "tri-mask splitter," which the Examiner objected to because it was not in the drawings. In short, Applicant believes that the Examiner's concerns have been addressed, and that the drawings are now fully compliant.

Neither the substitute specification nor the formal drawings contain new matter.

CLAIM OBJECTIONS AND INDEFINITENESS REJECTIONS:

The Examiner has objected to or rejected claims 1, 8, 13, 26, and 30 for various reasons largely involving the form of the claims. These issues have been fixed.

REJECTIONS UNDER 35 USC § 103:

Applicant's response focuses on showing that Applicant's independent claims are patentable. The dependent claims are not independently discussed as these narrower claims must be patentable if their associated independent claims are patentable. Therefore, Applicant focuses solely on the Examiner's position as to the patentability of the independent claims.

A. The McGuinn Reference May Not be Used To Reject Applicant's Claims for Obviousness

Statement Of Common Ownership: The pending application serial number 09/726,059,and U.S. Patent 6,450,037 (McGuinn) were at the time the invention of the '059 application was made jointly owned by or subject to an obligation of assignment to CiDRA Corporation.

The Examiner has rejected Applicant's independent claim 1 (and certain other claims) for obviousness given the combination of U.S. Patent 6,450,037 (McGuinn) with other cited references.

However, the McGuinn reference may not be used as a reference to preclude patentability for obviousness pursuant to 35 U.S.C. § 103(c), which states:

> Subject matter developed by another person, which qualifies as prior art only under [35 U.S.C. § 102(e)], shall not preclude patentability under this section [35 U.S.C. § 103] where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

McGuinn constitutes prior art under 35 U.S.C. § 102(e) as it is "a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent." McGuinn was filed on June 25, 1999, a date before the filing date of the present application, and later issued on September 17, 2002 while the present application was pending. This reference, therefore, constitutes only § 102(e) prior art.

Because the subject matter of McGuinn and the subject matter claimed in the present invention were both owned by a common entity at the time the invention of the present application was made, McGuinn is disqualified as prior art for the purpose of rendering Applicant's claims unpatentable for obviousness. *See* MPEP § 706.02(l)(1)-(3). Specifically, the present application and McGuinn were, at the time the invention was made, owned by CiDRA Corporation. (Later, both the application that issued as McGuinn and the present application were concurrently assigned to the present assignee, Weatherford/Lamb, Inc. as part of Weatherford's purchase of a portion of CiDRA's business, although the McGuinn application was subsequently assigned back to CiDRA). Pursuant to MPEP 706.02(l)(2)(II), this assertion, which Applicant conspicuously states above, constitutes "sufficient evidence" by Applicant to

disqualify McGuinn as prior art under 35 U.S.C. § 103. Hence, McGuinn may not be used as prior art to render Applicant's claims obvious.

B. Independent Claim 1:

With McGuinn removed as a reference that the Examiner can consider for obviousness, the sole remaining reference used by the Examiner to reject Applicant's independent claim 1 is U.S. Patent 6,212,306 (Cooper). However, Applicant submits that the Examiner has misinterpreted the teaching of Cooper as it relates to Applicant's claims.

In claim 1, Applicant claims "splitting the light pulses into first light pulses and second light pulses," "directing the first and second light pulses" to a first and second grating associated with the sensor, and then "receiving reflected first light pulses and second light pulses" from the two gratings. In other words, pursuant to Applicant's claim 1, a split light pulse is used to interrogate the gratings.

But this is not what is disclosed in Cooper. Instead, Cooper emits a light pulse from his light source 12 to a coupler/splitter 16 and onto a sensor string 18. The reflections from the sensor string 18 then proceed back to the coupler/splitter 16, where they are directed to detection equipment 20. See Cooper, col. 5, ll. 46-58. In other words, a single pulse (not a pulse that is first split into a first and second pulse as Applicant claims) is reflected off of Cooper's gratings, a point which Cooper makes clear: "Thus from the single optical pulse 13 launched into the sensor array 18, a train of pulses 36 are returned" for analysis. Therefore, and despite Cooper's characterization of element 16 as a "splitter,"[1] his light pulse is not split in two as Applicant has claimed to interrogate the sensors.

The Examiner has mischaracterized the relevance of Cooper to Applicant's claim 1 in other respects, but, having clearly demonstrated Cooper's lack of relevance in the foregoing paragraph, it is not necessary to point out the further ways in which claim 1 distinguishes over Cooper. Hence, Applicant submits that claim 1, and claims dependent thereon, are patentable.

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[1] Although not entirely clear, Applicant assume that this element 16 is called a "splitter" at certain points in Cooper because it splits off a portion of the initial light pulse to gate the returning reflections (train 36) from the sensor string so that only one of the reflected signals is processed and detected, the main point of Cooper's invention. But in any event, such splitting (if any) is not relevant to Applicant's claim 1, because any split pulses are not sent to interrogate the gratings in the manner Applicant claims.

C. Independent claim 13:

The Examiner rejects independent claim 13 for obviousness given the combination of Cooper and "Fiber Grating Sensors," J. Lightwave Tech., Vol. 15, No. 8, Aug 1997 (Kersey). But again, the Examiner has misunderstood the relevance of Cooper to Applicant's claims.

Claim 13, stated simply and in relevant part, claims a light path coupled to a light source which divides at the claimed "first optical coupler" into a "first optical path" and a "second optical path." These optical paths are then reintegrated at the "second optical coupler," which is in turn connected to Applicant's claimed "sensor" by an "optical transmission path" via a "directional coupler." In other words, the light path coupled between the light source and the sensor is split into two paths.

But this is not disclosed or suggested in either Cooper or Kersey. As noted earlier, Cooper merely sends a light pulse to his sensors via a straight path; at no point from Cooper's light source does the optical path split into two paths, and have those two paths reintegrated before they are sent to the sensors. The same is true of Kersey, and in this regard, Applicant focuses on Figures 11, 12, and 26 to which the Examiner specifically cites. In all three of these figures, a light path is split into two and reintegrated to form an unbalanced interferometer. But, in each of these cases, this split light path is not between the light source and the sensor; i.e., it is not in the path that interrogates the sensors in the manner Applicant claims. In all three Figures, the Examiner will note that the optical path between the light source and the sensor constitutes a single optical pathway, just like as in Cooper. Instead, the split path in Kersey is located between the sensors and the detection equipment. But this is not what Applicant claims, as noted above.

Thus, neither Cooper nor Kersey disclose a light path coupled between the light source and the sensor that is split into two paths, which Applicant claims in claim 13. Therefore, these two references when taken in combination cannot render claim 13 unpatentable because the combination does not disclose all of the limitations of Applicant's claims. See MPEP § 2143. Accordingly, Applicant's claim 13, and claims dependent thereon, are patentable.

D. Applicant's New Claims:

Although the language employed by Applicant in new claims 32-72 differs somewhat from the claims originally filed, the same arguments above pertain to these new claims as well. Applicant thus submits that these new claims are also patentable.

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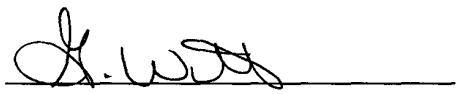
In view of the foregoing, Applicant respectfully submits that claims 1-76 are in a condition for allowance. Applicant's counsel can be reached by phone at 713-787-1410 or by e-mail at gwitt@howrey.com.

Respectfully submitted,



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